

TABLE 5 2017 Hurricane Harvey Deployment Arkema Site and Rapid Needs Assessment Chemical Detections 9/8/2017 5:01:49 PM



| Date | Flight # | Primary Mission | Compound | Limit of Detection (ppm) | Detections* |
|------|----------|-------------------------------|-----------------------------------|--------------------------------|-------------------------------|
| 8/29 | 1 | Systems Check | | | |
| 8/30 | 2 | Arkema Site | No Detections | | |
| 8/31 | 3 | Arkema Site | No Detections | | |
| 8/31 | 4 | Arkema Site | Peroxide* (Arkema) | 5.3 | Trace (6.3*) |
| 8/31 | 5 | Arkema Site | Peroxide* (Arkema) | 5.3 | Trace (6.3*) |
| 9/1 | 6 | Arkema Site | No Detections | | |
| 9/1 | 7 | Arkema Site & Zone 5 RNA | Peroxide* (Arkema) | 5.3 | Trace (6.3*), multiple passes |
| 9/1 | 8 | Arkema Site (Fires) | Peroxide* (Arkema) | 5.3 | Trace (6.3*), multiple passes |
| 9/2 | 9 | Arkema Site & Zones 5 & 6 RNA | No Detections | | |
| 9/2 | 10 | Arkema Site & Zone 6 RNA | Peroxide* (Arkema) | 5.3 | Trace (6.3*), multiple passes |
| 9/2 | 11 | Arkema Site | Peroxide* (Arkema) | 5.3 | Trace (6.3*) |
| 9/3 | 12 | Arkema Site Zone 6 & 7 RNA | Arkema: Peroxide Zone 6: 1-butene | 5.3 12.0 | Trace (6.3*) Trace (13*) |
| 9/3 | 13 | Arkema Site | Peroxide | 5.3 | 7.7 ppm (max) |
| 9/4 | 14 | Zone 7 RNA | No Detections | | |
| 9/4 | 15 | Zone 4 RNA | 1-butene | 12.0 | Trace (13*) |
| 9/5 | 16 | Zone 4 RNA | No Detections | | |
| 9/5 | 17 | Zone 4 RNA | No Detections | | |
| 9/6 | 18 | Zone 10 RNA | No Detections | | |
| 9/6 | 19 | Zone 8 RNA | 1-butene | 12.0 | Trace (13*) |

^{* &}quot;Trace" detection represents a value slightly above (about 1 ppm) the limit of detection. Peroxide measurements are being reported as requested by the Environmental Unit. These measurements are associated with the Arkema site and were obtained before, during, and after the trailers burned.



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| Date | Flight # | Primary Mission | Compound | Limit of Detection (ppm) | Detections* |
|------|----------|------------------------|---------------|--------------------------------|-------------|
| 9/7 | 20 | Valero Site | No Detections | | |
| 9/7 | 21 | Zone 8 RNA | 1-butene | 12.0 | Trace (13*) |
| 9/8 | 22 | Beaumont Special | 1-butene | 12.0 | Trace (13*) |
| 9/8 | 23 | State Special | 1-butene | 12.0 | Trace (13*) |

^{* &}quot;Trace" detection represents a value slightly above (about 1 ppm) the limit of detection. Peroxide measurements are being reported as requested by the Environmental Unit. These measurements are associated with the Arkema site and were obtained before, during, and after the trailers burned.

The table below lists the chemical compounds that are included in the TCEQ short-term AMCV spreadsheet and in the ASPECT automated detection library. The ASPECT automated processing chemical detection algorithms look for every compound listed in the table but only report positive detections.

| Chemical Compounds | Short-term AMCV (ppm) | ASPECT Dection Limit (ppm)* |
|---------------------------|-----------------------|-----------------------------|
| 1,1-dichloroethane | 1.0 | 0.8 |
| 1-butene | 27 | 12 |
| acetone | 11 | 5.6 |
| dichlorodifluoromethane | 10 | 0.7 |
| ethyl acetate | 4 | 0.8 |
| ethylene | 500 | 5 |
| isobutane | 33 | 15 |
| methyl ethyl ketone | 20 | 7.5 |
| methylene chloride | 3.4 | 1.1 |
| n-butyl acetate | 7.4 | 3.8 |
| n-propyl acetate | 2 | 0.7 |
| propylene | Simple Asphyxiant | 3.7 |
| vinyl chloride | 27 | 0.6 |

^{*} The concentration limits are derived using a 10 meter plume path length.